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# INNOVATIVE PREPARATION TECHNIQUE PRODUCES LIFE-LIKE SPECIMENS AND DELAYED DECOMPOSITION

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**USA**

The 10<sup>th</sup> International Interim Conference on Plastination- University of Toledo, OH

July 9<sup>th</sup> – 12<sup>th</sup> 2011



# BACKGROUND

- Department of Surgery annual “boot camp” course
  - There was a desire for more life-like tissue than tissue from traditional formaldehyde-embalmed cadavers
- Experimented with several chemical solutions: preservatives, fixatives, and disinfectants



# MATERIALS AND METHODS

- Trinity Fluids customized embalming fluids
  - Recommendation:
    - Try an arterial chemical: chemical manufactured by GreenBlendz that may last up to five days at room temperature
- Followed standard embalming protocol for whole body cadavers



# CADAVER DESCRIPTION

- 33791 (died one day prior to injection)  
77 year old female, 66 inches tall, 140 pounds (167.64 centimeters, 63.50 kilograms) metastatic carcinoma of the colon to liver, lungs, lymph nodes, hypothyroidism, hyperlipidemia, pituitary macroadenoma resection, tobacco abuse.
- 33788 (died two days prior to injection)  
59 year old male, 72 inches tall and 155 pound (182.88 centimeters, 70.30 kilograms) with history of liver cancer, diabetes, and heart valve failure



# RESULTS

## Embalming Results

- Cadavers remained satisfactory for over 14 days
  - Body flexible, minimal odor
- Odor observed coming from skin after day 10
- No odor observed on muscle or organ tissue throughout trial



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# EMBALMING RESULTS

## 33791 - female



Day 1



Day 5



Day 9



Day 16

## 33788 - male



Day 1



Day 5



Day 9



Day 16

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# INTERNAL TISSUE AT END OF TRIAL

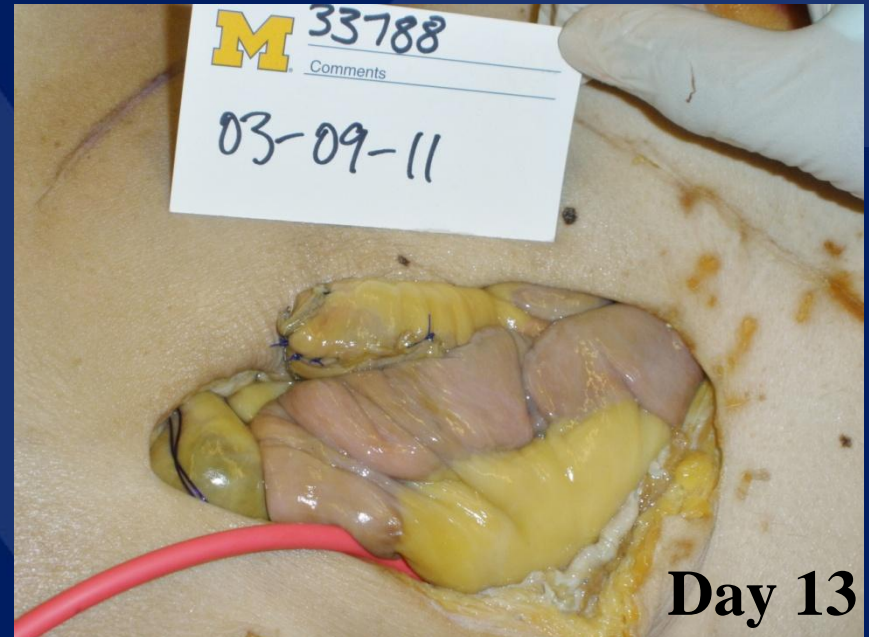
33791



Day 13



Day 15



Day 13

33788

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# RESULTS - PLASTINATION

## Trials with Plastination

- Goal: find a final product which was more flexible and life-like than traditional plastination
- Upper limb, section of femoral artery, liver, lung, and kidney
- Plastinated at room temperature with success





# CONCLUSION

- Department of Surgery impressed
  - All future cadavers will be embalmed using the new chemical instead of traditional formaldehyde
- Plastinated specimens preserved initially with new chemical are similar to plastinated specimens preserved with traditional method
- Future Research
  - Develop protocols, and chemicals that delay decomposition and create life-like specimens to enhance anatomical teaching



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THANK YOU TO THE  
INTERNATIONAL SOCIETY OF  
PLASTINATION FOR HAVING THIS  
GREAT EVENT

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TOLEDO FOR HOSTING THIS  
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